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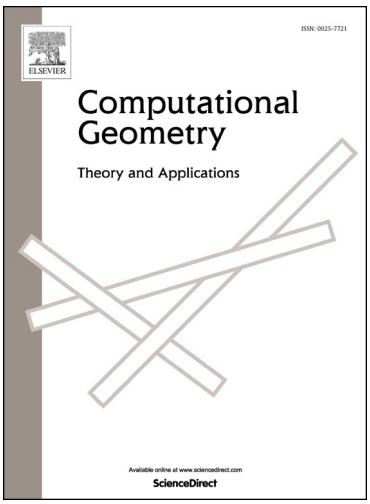


Table Cartogram

William Evans, Stefan Felsner, Michael Kaufmann, Stephen G. Kobourov, Debajyoti Mondal et al.

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ACCEPTED MANUSCRIPT

# Table Cartogram[☆]

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**Abstract**

A table cartogram of a two dimensional $m \times n$ table $A$ of non-negative weights in a rectangle $R$, whose area equals the sum of the weights, is a partition of $R$ into convex quadrilateral faces corresponding to the cells of $A$ such that each face has the same adjacency as its corresponding cell and has area equal to the cell's weight. Such a partition acts as a natural way to visualize table data arising in various fields of research. In this paper, we give a $O(mn)$-time algorithm to find a table cartogram in a rectangle. We then generalize our algorithm to obtain table cartograms inside arbitrary convex quadrangles, circles, and finally, on the surface of cylinders and spheres.

[☆]A preliminary version of the paper appeared in the Proceedings of the 21st Annual European Symposium on Algorithms (ESA 2013) [1].

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